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Miedema, E., Lindahl, G., Elf, L. (2017). Health promotive ambitions related to building design – the case of Angered Nearby Hospital. ARCH 17 - 3rd international conference on architecture, research, care and health, 1 edition: 331-344

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Health-promotive ambitions related to building design – the case of Angered Nearby Hospital

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Abstract

The healthcare system in Sweden is re-orienting and transforming to embrace a holistic perspective on health, which includes a focus on Health Promotion. This development has led to new ambitions and processes in healthcare and has thus changed the requirements for related building design. This explorative study, based on a content analysis of 9 semi-structured interviews with stakeholders involved in the planning and design process of Angered Nearby Hospital (Närsjukhus), investigates how the building design was influenced by Health Promotion ambitions. Questions focused on expectations and challenges for the new building. The results illustrate how Health Promotion was interpreted in the design process and how expectations were described, e.g., as a “welcoming environment” or “active environment”. It is found that the understanding of how to interpret Health Promotion in design is vague and performed without any guidelines other than at the policy level. This lack of clarity is also related to the difficulty of finding studies on the topic. The results also point to a need for clarification of how Health Promotion can be interpreted in design, the need for Health Promotion-related design guidelines, and the need for definitions of requirements at the project level to measure health-promotive effects.

Keywords: building design, Health Promotion, Nearby Hospital, design ambitions.

Introduction

This paper discusses the matter of addressing and utilizing the concept of Health Promotion in healthcare building design projects. The paper is based on a study of a new type of hospital being built in Sweden, the so-called Nearby Hospital (Närsjukhus).

Current health service trends

Previous efforts to improve our health through lifestyle changes and medicine have increased life expectancy worldwide (Burger, Baudisch, & Vaupel, 2012). While life expectancy rates are improving, health and quality of life are not (He, Goodkind, & Kowal, 2016). Furthermore, Sweden is experiencing increasing waiting times to see a doctor, increasing health inequalities amongst populations and within areas, and a disproportionate number of people visiting the emergency department rather than their primary care unit (Anell, Glenngård, & Merkur, 2012). These challenges, in combination with an aging society and an increasing number of people with preventable chronic diseases, require a re-orientation of the healthcare system that includes upstream solutions (Wilson, Harris, Hollis, & Mohankumar, 2010). Thus, a re-orientation from a reactive disease treatment model to a proactive Health Promotion model that includes a holistic view of health (Porter & Department of Education, 2007; Wells & Laguarda, 2009) is necessary.

From a holistic perspective, patients and their health are assessed and addressed related to their resources in their life, including their living environment (WHO, 2009). A holistic model considers a broad biological, psychological and social approach to health and incorporates individuals' needs (Wilson et al., 2010). Healthcare action should also include resources to obtain health and well-being (B. J. S. Nutbeam, Kwok Cho, & Don, 2006).

Health promotion

An important aspect of holistic healthcare is Health Promotion. Health Promotion is defined as 'the process of empowering individuals and communities to take/get control over their own health' (D. Nutbeam, 1986). While this definition is generally used, Health Promotion includes many dimensions and perspectives (Green & Kreuter, 1999) and is an approach focused on human resources to increase and maintain health, rather than on procedures to treat disease (Antonovsky, 1996). Health Promotion should not be confused with health education, which seeks to inform at-risk individuals about their health-related behaviour (Whitehead, 2004). Health Promotion is related to both public and individual health, including vulnerable groups such as people living with multiple diseases or long-term conditions who are excluded from the regular healthcare system (WHO, 2010). Health Promotion is closely related to care approaches such as person-, patient- and family-centred care. Health Promotion is an integrated part of further development of a high-quality healthcare system, although implementation continues to be challenging worldwide (Wilson et al., 2010).

The concept of a Nearby Hospital

In Sweden, a new healthcare building typology, the Nearby Hospital, is developing to support the healthcare system, with a focus on delivering equal and accessible care. The Nearby Hospital focuses on delivering care to the local population (Linnarson & Ernstson, 2006; Olsson, 2009) in proximity to their everyday life. It should be able to address 80% of all care needs (Linnarson & Ernstson, 2006; Olsson, 2009), including community health needs, and thus off-load the burden from emergency hospitals (Alfredsson & Nordin, 2006). The Nearby Hospital should not be confused with a primary care unit (healthcare centre/vårdcentral) or an emergency/community hospital (secondary care); rather, it is typologically between those care levels and building types. A Nearby Hospital is characterized by a holistic approach to healthcare that strives for continuity throughout life; emphasizes collaboration between primary, municipal, specialized and medical care; and delivers a Health Promotion approach (Alfredsson & Nordin, 2006) serving people during the day, which requires specialists. Still, since this is new building typology, no guidelines exist for this type of healthcare building (Melin, 2012).

Healthcare building design

Research by Ulrich and colleagues (2010; 2008) showed that human health could be affected by healthcare building design. Healthcare building design, here, indicates healthcare facility design, both in terms of the design process (activity) and the designed object (built environment). Interpretations in the text will be clarified where needed. Healthcare facilities, here, are buildings facilitating planned healthcare services, such as the primary care centre or the hospital. Studies on healthcare building design have mostly focused on its health effects on individuals, such as patients, visitors and staff (Huisman, Morales, Hoof, & Kort, 2012; Laursen, Danielsen, & Rosenberg, 2014; Ulrich et al., 2008), yet there is limited research on built environments in relation to community health (Aasa & Wikström, 2016), e.g., the effects of the building's design in relation to Health Promotion. Despite this lack of research, the built environment has been noted as an important factor for Health Promotion (Whitelaw et al., 2001). We argue that this research focus could advance discussions on Health Promotion development and on future healthcare facilities incorporating Health Promotion approaches.

Aim and Research Question

Assuming that future healthcare building design will include more Health Promotion ambitions, this study aimed to explore different interpretations of Health Promotion ambitions and the incorporation of those ambitions into the building design of Angered Nearby Hospital (ANS). A starting point was to investigate how Health Promotion ambitions were perceived by the actors in the planning and design process. The question asked in the study was as follows: How are health-promotive ambitions integrated into the building design according to the actors in the planning and design process?

Background

The newly built ANS is the first of the Nearby Hospitals and is designed to be a health-promotive hospital. As ANS was the first of this type of hospital, previous studies on Health Promotion and its relationship to building design are limited. A recent literature study in the format of a scoping review led to 15 papers, out of 4506 titles, which discussed the Health Promotion healthcare building design. Those were often implicit in their translation to the building design or were limited to small interventions affecting one aspect of Health Promotion, such as 'active' or 'accessible environments' (Miedema, Elf, & Lindahl, forthcoming).

The context of Angered Nearby Hospital

ANS is a newly opened Nearby Hospital for the 85,500 inhabitants of Angered, a multi-ethnic low-income part of Gothenburg, Sweden (Alfredsson & Nordin, 2006; Linnarson & Ernstson, 2006). Angered developed into a mass housing area from 1967 to 1972, with further development in 1980. The area faces similar challenges as other mass housing projects in Europe, particularly issues related to income, life expectancy, educational level and health inequality. On average, inhabitants of Angered have poorer life expectancy than inhabitants of other parts of Gothenburg (Lundquist, 2014).

To increase health equality in Gothenburg, its regional and municipal health organizations united in 2005 and initiated a feasibility study for a new hospital in Angered to address the abovementioned challenges. Better collaboration between healthcare and social care and increased focus on Health Promotion should address these challenges. Two main ambitions were defined in the preliminary study (Linnarson & Ernstson, 2006): the hospital should enable a meaningful healthcare encounter in a multicultural area, and it should be planned and organized as a **health-promotive hospital**. In 2006, a pilot study investigated the possibilities of building the hospital, considering the ideas of a Nearby Hospital and Health Promotion.

The planning process was participatory, involving the county council healthcare representatives and municipal care representatives, the architectural firm, and future users of the building. A project manager facilitated several re-occurring group meetings that focused on discussions of needs and wishes for the new building with architects, key actors, department heads, representatives of future users, such as patients and visitors, and inhabitants of Angered. The inhabitants of the greater Angered area and the people working in the area, as well as the politicians, were important actors in engaging and empowering the community.

The design phase, starting in 2011, focused on integrating the two main project ambitions into the design ambitions, which would guide the healthcare building design process (Norden, 2011). The ambitions, as summarized by the design team, were Accessibility, Collaboration, Welcoming, Daylight, Flexibility, Innovation, and Multicultural (Norden, 2011). The construction process then started in 2013 and the building was opened for use in September of 2015. The ANS is the first of three planned Nearby Hospitals in the city of Gothenburg.

Method

Study Design

This study involved an explorative qualitative case study on different perspectives of Health Promotion ambitions integrated into the building design of ANS. This involved a content analysis of 9 semi-structured interviews with different actors in the planning and design process, such as the project manager, the initial and final architect, and several future users (see Table 1). The respondents and their quotes have been coded in the results. The study occurred in Angered in Gothenburg, Sweden.

Table 1. Overview of building aspects and categories as mentioned in the interviews

Respondent	M/F	Role	Process phase
AM	M	Initial Architect	Planning and Design
BB	M	Project Manager	Planning and Design
IW	F	Development Manager (utvecklingchef)	Future user
PN	F	Project Architect	Design
HA	M	Public Health Expert	Planning
CB	F	Head of Department	Planning, design, user
HE	F	Acting Head of Department (Tf Verksamhetschef)	Planning and design
VR	F	Research and Development	User
LG	M	Department Head	Design and user

Data collection

The interviews occurred over a 3-month time period, just before the opening of ANS in September of 2015. Respondents chose all interview locations and the research team developed the questions (see Table 2). All interviews were audio recorded with permission.

Table 2. Questions for semi-structured interviews

Questions
1. What has been your role in the development of the ANS?
2. What will be your role in the new ANS?
3. Tell me about your expectations for the ANS.
4. Tell me what you find important for the ANS.
5. Do you see or have you identified any obstacles to / risks of the project?
6. How do you think we can see/measure those?

Data analysis

A qualitative content analysis was performed on the individual interviews according to a method described by Charmaz (2014). This included four phases: (1) Transcribing the audio recordings of the interviews; (2) Converting the transcriptions into meaning units and then into condensed meaning units; (3) Filtering the condensed meaning units, including those meaning units that mentioned aspects of the building design; and (4) Coding the filtered meaning units.

Study Limitations and strengths

As there was no framework to link to, an explorative and qualitative approach was chosen to acknowledge different perspectives. Parameters such as the choice of respondents, number of respondents, and questions asked influenced the results. The respondents involved were able and wanted to contribute. There is a risk of bias as they commented on their own actions. However, the authors do not believe that this has affected the outcome of the study due to its explorative approach. Additionally, as we learned from the results, the questions could be more focused in a follow-up study.

The exploration of an actual case strengthened the study and enabled us to build a platform for studies of other Nearby Hospitals in the years to come, thereby making a longitudinal study possible. Even if the ANS study is not complete in all aspects, it offers a starting point for further studies focused on Health Promotion in relation to the built environment.

Results

ANS aimed to be a health-promotive hospital that would enable a meaningful encounter with healthcare in a multicultural area. The results present different interpretations of health-promotive ambitions integrated into the building design of ANS, according to actors involved in the planning and design process. From the respondent dialogues on expectations and challenges of designing and building ANS, six categories involving characteristics of the building design re-occurred (see Table 3). These categories can be considered expressions of the health-promotive ambitions that guided the building design of ANS.

Table 3. Overview of building aspects and categories as mentioned in the interviews

Sub Categories by authors	Categories
Active environment	Stimulating healthy behaviour
Environment for health education	
Prevention environment	
Accessible to all population groups regardless of age, disability, cultural background	Inclusive environment (incorporating needs)
Accessible by public transport	
Visibility of the building	
Local health needs	
Welcoming atmosphere (perceived safety, quality services)	Welcoming (incorporation of wishes and values)
Restorative environment	
Wayfinding	
Supporting collaboration (internal, with external departments and with patients)	
Supportive of meaningful encounters	
Getting (enough) daylight into the building	
Ownership and pride of the building	Participatory project process (incorporating empowerment)
Political role of the building	
Symbolism of the building (functions)	
Empowerment	Flexibility of the design to change
Flexible building structure	
Flexible floor organization	
Common spaces	
Flexible furniture for flexible use	

Comments on building design that stimulates healthy behaviour

Three respondents discussed Health Promotion and linked this to facets of healthy behaviour, either stimulating active behaviour, facilitating health education or areas that include prevention strategies. Stimulating active behaviour is expressed through emphasizing the importance of easy and accessible walking to the building, engaging the patients in physical activities and designing a building where people are presented with solutions that simplify the use of the stairs through location and orientation. One respondent said, 'In a health-promoting hospital we want people to use the staircases (...) the staircases are the first thing you see; we want the patients to walk up to the first or second floor. However, there are also elevators of course' (CB). Another respondent emphasized that Health Promotion should be able to occur both inside and outside the building.

The importance of health education related to the built environment, as mentioned by some respondents, refers to the spaces and functions needed for what are considered health educational purposes, for instance, the educational kitchen for patients to learn how make meals that fit within their new diets. As another example, the interior of the consultation room should be fit for educational purposes and accessible storage of information and books on healthcare. One respondent mentioned that the Nearby Hospital should be the place to go for smoking cessation therapy. The building and its activities should be focused on supporting a healthier lifestyle.

Comments on building design that is inclusive for all people

All respondents inexplicitly suggest inclusive building design, accessibility for all people, and incorporation of their different needs. Accessibility was highlighted by one respondent as 'everyone can actually access everything, physically or not'. Others expressed that it was important for accessibility purposes that the building be close to public transport, parking and 'everyday life', or remarked on the visibility of the building in the area from the shopping area and from several types of transport used in the area. Accessibility within the building was also mentioned in relation to barriers to physical access, closeness to storage, access to information and opening hours.

Accessibility is also considered by the respondents as a starting point for a welcoming environment and as a basis for empowerment. It was mentioned that there is a need for child-friendly play areas throughout the building and a reception location to support access to different healthcare services.

Understanding the local health needs was also a focus in the participatory design process. One respondent stated, 'In the design process, we focused discussions on the needs of people there' by 'involving staff who could describe quite well the situation of the people living in Angered'.

One respondent mentioned the feeling of ownership as important for the building's accessibility: 'the hospital should be owned by the local population and staff, and therefore have accessible public functions at the entrance level'. This was related by others to the welcoming and empowering environment.

Comments on building design that contributes to a welcoming environment.

Four of the respondents from the planning and design process explicitly used 'welcoming' in addition to accessibility to describe the ambition for ANS. They related this welcoming ambition to a restorative building design supportive of meaningful encounters, user-centred and respectful of people's background and values, and supportive of collaboration.

When mentioning restorative aspects, the respondents referred to the need for an environment that can reduce stress and make people feel calm before or after an appointment. One respondent described that environment as follows: 'If patients had a meeting that had some bad outcomes, maybe the building can help them to relax before they go home' (AM). One interviewee expressed that 'in the health-promotive building everyone is welcome and patients are helped to find their way (LG)'. Another stated that 'we wanted [the building] to be welcoming because we want the patient to come to us' (...) 'before they are ill' (CB). Six respondents mentioned the need for daylight in the building, corridors, offices and in the courtyards. They remarked on the amount of daylight, being able to look outside, or light used in art installations. For instance, one participant noted that 'we have combined the corridors of the departments, unfortunately with many dark rooms. We used glass panels and glass doors to get some daylight in those spaces' (AM). Regarding the quality of the work environment, a respondent stated, 'I have one of those rooms with glass around (...) And even though it is light enough, I would have liked to be able to look outside' (HA).

Respondents associate welcoming ambitions with the way and where the patient is met. For instance, one respondent mentioned the need for a welcoming examination room 'for the encounter between the patient and the physician' (AM). Additionally, respondents noted that the building should allow for the staff to meet their patients in different ways, even outside of the building. The organization of the building should allow the staff to start their meetings with patients in different parts of the building, e.g., in the entrance of the waiting rooms, depending on the patient's wishes.

A welcoming environment also includes user-centredness with respect to different backgrounds and values. One respondent argued, 'We are individuals, we are unique, we are different and there is no way you can purpose-build for everyone. However, there are certain basic things that you should try to achieve (...) and it is difficult' (VR). The respondents relate the integration of cultural aspects into the building design to building requirements such as facilitation of a spiritual room, a room for an interpreter who can help overcome language barriers, and increased floor surface for the waiting room and consultation rooms so people can bring relatives and/or include them in the patient's consultation. Additionally, they referred to more symbolic features of the building design, such as the art and graphics throughout the building. For example, as one of the respondents said: 'There are no design elements or symbols that refer to a certain population group. For example, the metaphors linked to the gardens are not linked to one religion' (IW). Respondents mentioned that the actors from the local community preferred a Swedish hospital style using warm colours and wood as they argued Sweden is what the community has in common, and the Swedish hospital style was associated with high-quality healthcare.

The importance of the building in improving collaboration was mentioned by all nine respondents. They mention the expected improved collaboration between organizations and departments within the building, such as the collaboration between primary and secondary care, which becomes easier when co-located. One respondent considered ANS as one part of a network

of care buildings in the region (HA). Others worried about excluding research and collaboration partners due to the distance to them, or rather to the closeness to other partners within the same building. Other worries concerned decreased privacy in the building due to shared hallways and confused patients who do not know where to go. However, these issues can be addressed; the confused patients should be helped by the common reception desk, and the respondents agree that collaboration within ANS should increase, as departments share floors, hallways, staffrooms and treatment rooms.

Comments on the participatory process for empowerment.

According to the respondents, in addition to being accessible and welcoming to all people, the building design should stimulate empowerment and ownership. Six respondents mention the importance of a participatory design process that involved the local population to empower them, create ownership of the new healthcare building and understand their particular health needs. One stated, 'I want them to feel that this is their hospital'. The respondents also relate to pride in the building by the local population and the staff working there. Ownership of the building was related by the respondents to the possibility of being able to influence the environment and personalize it, which could be considered part of ownership. For instance, a pattern found in different building elements, such as the balustrade or the walls, was the result of a local design competition. This gave the opportunity for the local community to contribute to the style of the 'hospital brand', which, according to one respondent, contributes to ownership.

One respondent described the necessity of community involvement: 'some politicians wanted a normal hospital, but the idea [of a Nearby Hospital] disappears without focus on the local population' (BB). Later, the same respondent admitted satisfaction as the building demonstrates 'how their vision is integrated into the hospital' (BB).

Comments on building design that support changes through flexibility

Flexibility was mentioned by six of the respondents, either as flexibility of the building structure or flexibility in the use of the environment. Flexibility of the building structure was mentioned as the option for extra floors, flexibility of department sizes, etc. One respondent stated, 'ANS has to be flexible, easy to change parts, change the entrance, make departments larger, smaller, and change them' (AM).

Other respondents mentioned different departments using the same rooms, such as the staff rooms, operating rooms or the treatment rooms. Another item mentioned was that the fluctuating number of people attending 'patient's consultation' required larger examination and waiting rooms. The lack of flexibility in use was described by one respondent: '[the new workplace is] tricky because it is designed [so] a table should be (...) [next] to that wall. I do not like to have my computer [near] to the windows' (IW).

Discussion

Beginning with the mapping of respondents' comments and assuming that future healthcare building designs will also include Health Promotion ambitions, this study has explored ANS and how, according to the respondents, Health Promotion ambitions were integrated into the building design.

When reflecting on the responses, we discovered the main Health Promotion ambitions in relation to the healthcare building as an object: it should facilitate healthy behaviour; it should be accessible and welcoming, thus incorporating the needs and values of its users and populations; and it should be flexible and adjusted to the local context. Furthermore, the design process should contribute to community empowerment within the local environment.

While familiarizing ourselves with the interviews, we noticed that all respondents agreed that Health Promotion is more than stimulating healthy behaviour, meaning they have not reduced Health Promotion to health education, which is a common issue described by Whitehead (2004).

Additionally, we learned about the need for the building's organization to support health-promotive ambitions. Thus, it should be inclusive, without any type of barriers, and should support collaboration between healthcare services for the advantage of users. It was noticed that the respondents considered a health-promoting hospital as one that is embedded in the local context, includes the surrounding population as possible users, patients, visitors and staff, and considers a variety of their different needs rather than only their health needs. The multicultural demographics of the area make the consideration of different needs and values especially important.

We realized the importance of an inviting character when the community wants people who are not in need of treatment, but could benefit from an interaction with healthcare, to come to the building. In addition to being available and accessible, this type of building should also be inviting. This understanding relates to the proactive approach of health-promoting hospitals as described by Wells and Laguatra (2009).

Furthermore, we perceived that the respondents recognized the importance of a participatory building design process as a tool to understand the population needs for community empowerment. In addition, although this was not the focus of our study, it seems as if a Health Promotion-focused building design is challenging to accomplish without such a participatory process.

Finally, we learned that there are several possible roles for building design in promoting health in addition to facilitating Health Promotion activities (health education), such as supporting Health Promotion processes, reflecting Health Promotion organization (co-location and collaboration) or symbolizing Health Promotion ideology (a building close to home).

Conclusion

It has been shown that Health Promotion in building design includes a range of building design interventions that, combined, can have several results for the building design. The minimum result is facilitating Health Promotion action (such as health education and physical activity). Additionally, supporting a Health Promotion organization that is user centred and non-excluding is important. Further, an environment that invites people who are not in need of treatment, but may need care, should be considered. The building design should also consider the local context, thus reflecting the needs and values of the surrounding population. The relation of Health Promotion to building design also has a much more complex relationship when considering all aspects of everyday life. To what degree should the built environment intervene in how we live? For example, today, the building of bike lanes is not a single-issue question but rather a question that touches on political, Health Promotion, urban design, energy and environment issues. This complexity remains important when considering Health Promotion and building design.

Practical implications

Constructed from this study, a few concrete suggestions for building design emerged, as summed up in the list below.

- Facilitate health-promotive functions and healthcare services that reflect the local health needs, thus making healthcare available for the local population.
- Make it possible for all people to use the building. It should be accessible for all, for staff, patients and visitors, including those with different health needs.
- Create a welcoming environment. That is, in addition to being accessible, the building should be stimulating and motivate people to come even if not ill. It, therefore, must be respectful of differing cultural backgrounds and their values.
- View the process as a tool to empower people, create ownership and to be able to understand their specific needs.
- Focus on building design features that stimulate healthy behaviour and healthy choices.

However, these points address different aspects that all must be integrated during the actual design work. Moreover, they must be related to the context of the design, not least if utilizing an Evidence-Based Design approach.

Further research

The field of Health Promotion and its relation to building design and the built environment in general needs to be further studied. With an increased number of policies and projects incorporating the Health Promotion approach, there will be a need to define, discuss and develop how this can be articulated to be included in building design processes.

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